

## NOTES

*QUERCUS DOUGLASII* (FAGACEAE) IN CALIFORNIA'S CENTRAL VALLEY.—John C. Hunter, Botany Department, University of California, Davis, CA 95616.

In Northern San Joaquin County, *Quercus douglasii* (blue oak) occurs near the center of the Valley at the Liberty Cemetery (R6E T5N S36 SW¼). A dominant of woodlands surrounding the Central Valley, *Quercus douglasii*'s previously recorded distribution on the Central Valley's floor is limited to areas adjacent to the foothills and to Arbuckle soils in the Dunnigan-Arbuckle area (Griffin and Critchfield, USDA Forest Service, Research Paper PSW-82, 1972).

There are 14 blue oaks in the Liberty Cemetery and a number scattered on adjacent lands. These trees range from 15 to 120 cm DBH with most between 50 and 100 cm DBH. The area's soil is San Joaquin Loam which is derived from alluvium and has a well developed profile with hardpans (Weil, Soils of San Joaquin County, Agricultural Experiment Station, University of California, Berkeley, 1952). San Joaquin soils are distributed from eastern San Joaquin County to west of Thornton near the delta.

This site contributes to evidence that the Central Valley's vegetation did not consist of simply riparian forest and prairie. Early observations of the Valley include references to wooded plains, scrub oak, and brush (Weil 1952; Dawdy, USDA Forest Service, General Technical Report PSW-110, 1989). Based on these observations, other records, and extant vegetation, it seems possible that the pre-settlement prairie included areas of woodland, savannah, and scattered shrubs, and that other "foothill" species besides *Quercus douglasii* may also have been present on the Central Valley floor.

(Received 3 March 1992; accepted 21 March 1992)

---

INVASION OF *AMORPHA FRUTICOSA* L. (LEGUMINOSAE) ALONG THE COLUMBIA AND SNAKE RIVERS IN OREGON AND WASHINGTON.—Judith B. Glad, 1400 N Holman, Portland, OR 97217 and Richard R. Halse, 4535 NW Big Oak, #3, Corvallis, OR 97330.

*Amorpha fruticosa* L. (indigobush, false indigo, bastard indigo) is a shrub native from southern Quebec, Canada, south to Florida, west into northern Mexico, southern California, and Wyoming, and north to Manitoba, Canada (Wilbur, *Rhodora* 77: 377–409, 1975). Barneby (*Intermountain Flora* IIIB:28, 1989) writes that *A. fruticosa* is occasional in Utah gardens and has become a fully established riparian weed along the Boise and Payette rivers in southwestern Idaho; he states that the genus is absent from the Pacific Northwest. The plant is not mentioned in Davis' *Flora of Idaho* (1952) or in the *Flora of the Pacific Northwest* (1973).

*Amorpha fruticosa* is firmly established along the Snake River in Baker and Malheur counties, OR, and in Garfield, Franklin, and Walla Walla counties, WA. Along the Columbia River, it has been found from the Hanford Reach in Benton and Franklin counties, WA, to Multnomah County, OR, and to Wahkiakum County, WA. It has also been reported on Deadman Creek upstream from Central Ferry (Garfield County, WA), above Starbuck on the Tucannon River (Columbia County, WA), along Mill Creek near the town of Walla Walla (Walla Walla County, WA), and along the Umatilla River in Oregon.

Collections have been made in Umatilla, Sherman and Morrow counties, OR, and Garfield County, WA (IDF, OSC). The first published report of the species in the